

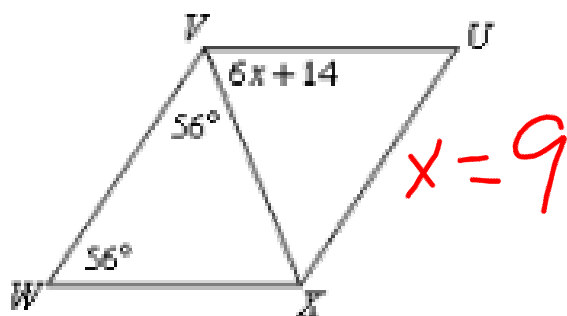
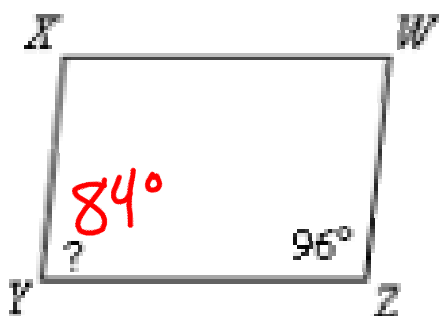
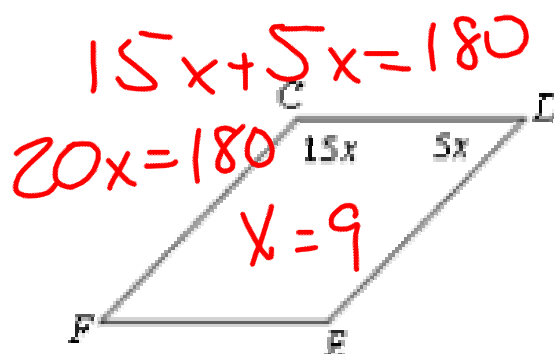
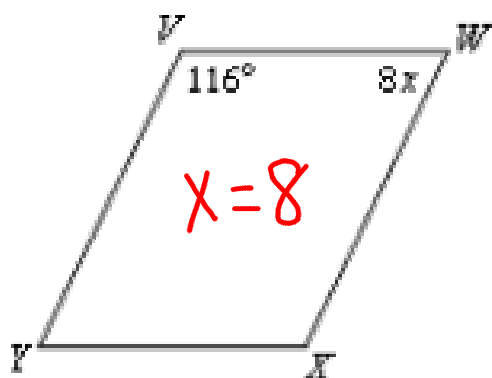
02/19/14 Agenda:

- Remediation packet is on my web site. If you are planning on retaking the Chapter 7 test, I need it by 2/25 (next Tuesday)
- Review Homework
 - Worksheet 3 - Parallelograms
- Section 8.3 - Proving a Quadrilateral is a Parallelogram
- Homework
 - Worksheet 4 - Proving Parallelograms

NOTE: Quiz is moving to this Friday (day after tomorrow)!

Warm Up - Homework Out!

Solve for the missing variable:



$$56 + 56 + 6x + 14 = 180$$

$$6x + 126 = 180$$

$$6x = 54$$

$$x = 9$$

Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

February 19, 2014

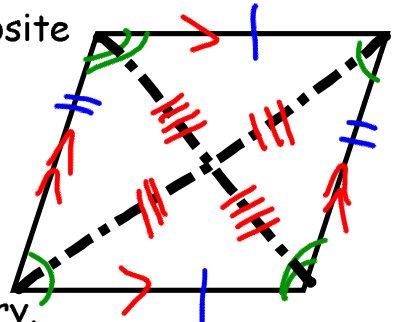
Goal: Prove that a Quadrilateral is a Parallelogram.

Yesterday, we learned these properties about parallelograms:

Parallelogram:

Quadrilateral with BOTH pairs of opposite sides parallel.

- Opposite sides are congruent.
- Opposite angles are congruent.
- Consecutive angles are supplementary.
- The diagonals bisect each other.



Today, we're going to learn ways to prove a quadrilateral is a parallelogram.

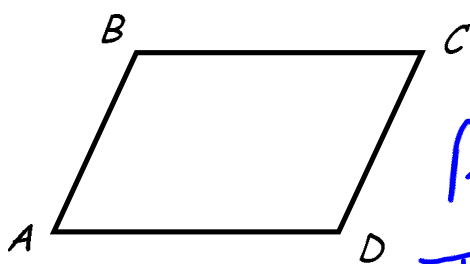
Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

February 19, 2014

Proving
Parallelograms:

By its' definition, if both pairs of opposite sides of a quadrilateral are parallel, then the quadrilateral is a parallelogram.



IF $\overline{BC} \parallel \overline{AD}$
AND $\overline{AB} \parallel \overline{CD}$
THEN, \square

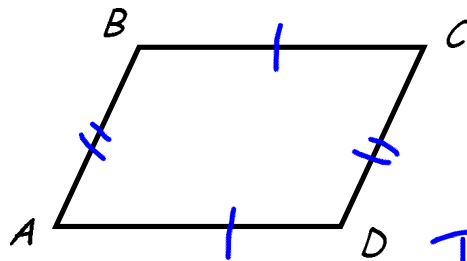
Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

February 19, 2014

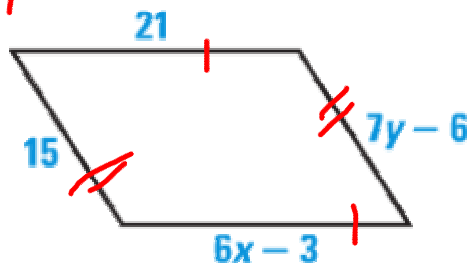
Proving
Parallelograms:

1. If BOTH pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.



IF $\overline{AB} \cong \overline{CD}$
AND $\overline{BC} \cong \overline{AD}$
THEN \square

$$6x - 3 = 21$$



$$x = 4$$

$$y = 3$$

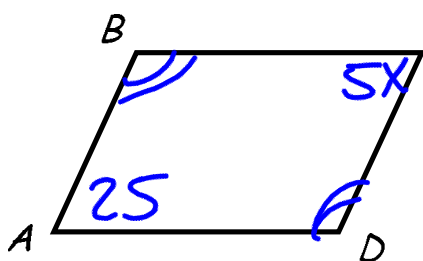
Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

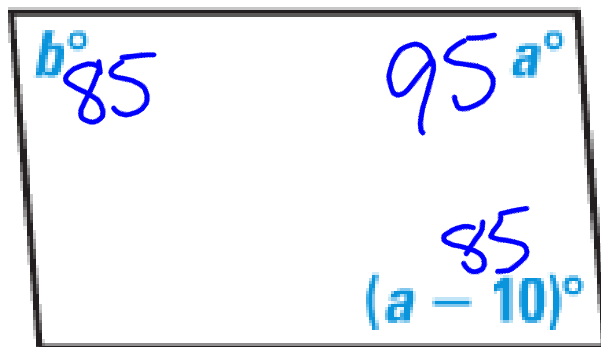
February 19, 2014

Proving
Parallelograms:

2. If BOTH pairs of opposite angles of a quadrilateral are congruent, then the quadrilateral is a parallelogram.



IF $\angle A \cong \angle C$
AND $\angle B \cong \angle D$
THEN \square



$$\begin{aligned} a + a - 10 &= 180 \\ 2a - 10 &= 180 \\ 2a &= 190 \\ a &= 95 \end{aligned}$$

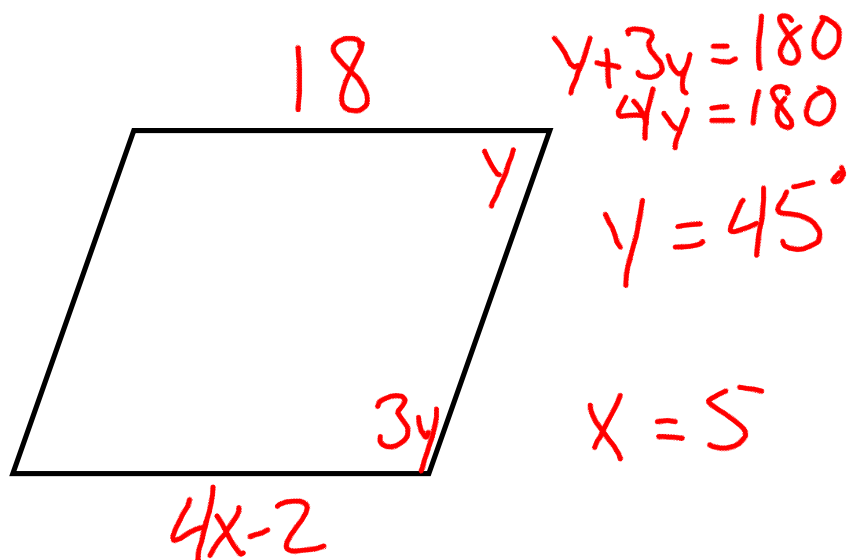
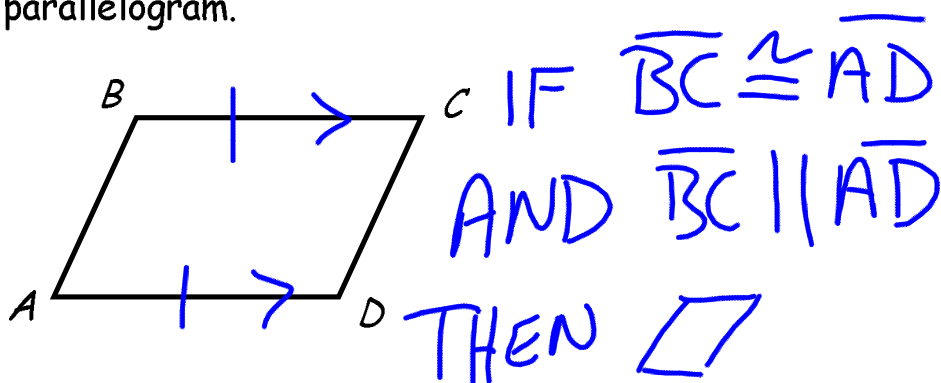
Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

February 19, 2014

Proving
Parallelograms:

3. If ONE pair of opposite sides of a quadrilateral are congruent AND parallel, then the quadrilateral is a parallelogram.



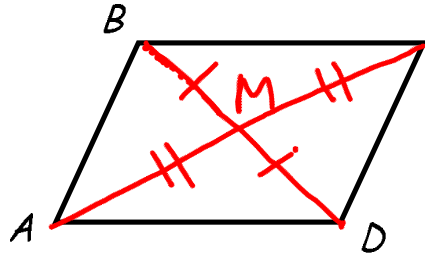
Section 8.3 - Proving Quadrilaterals are Parallelograms

Target 8D

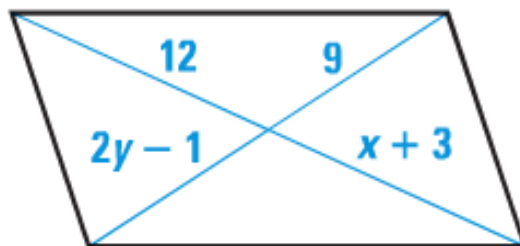
February 19, 2014

Proving
Parallelograms:

4. If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram.



IF $\overline{AM} \cong \overline{MC}$
AND $\overline{BM} \cong \overline{MD}$
THEN \square



$$x = 9$$

$$y = 5$$

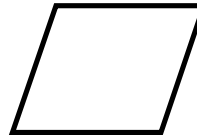
Section 8.2 - Properties of Parallelograms

Target 8C

February 18, 2014

3x5 Summary:

Proving it's a Parallelogram:



Show:

- Both pairs of opposite sides parallel.
- Both pairs of opposite sides are congruent.
- Both pairs of opposite angles are congruent.
- ONE pair of opposite sides are both congruent and parallel
- The diagonals bisect each other.